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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,874	03/18/2004	Hideo Matsunaga	Q80281	5453
23373	7590	09/07/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			PASSANITI, SEBASTIANO	
			ART UNIT	PAPER NUMBER
			3711	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/802,874	MATSUNAGA ET AL.	
	Examiner Sebastiano Passaniti	Art Unit 3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on see detailed Office action.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/23/2005</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is responsive to communication received 09/23/2005 – IDS (not previously considered); 06/07/2006 – Request for Continued Examination (RCE).

Claims 1-12 remain pending.

Following is an action on the MERITS:

As a substantial portion of a previous Office action is repeated below and in an effort to assist the applicant in identifying that portion of the current rejections which is newly presented, italicized wording has been used to identify language newly added to the 35 U.S.C. §103 rejection, below.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya ('217) in view of Motomiya ('931), Hoshi ('560), Tsuchida ('913), *Kusumoto ('958)* and *Murphy ('847)*. Note that each of *Kusumoto* and *Murphy* were filed prior to applicant's earliest effective filing date. The patent to Tsuchiya shows every feature claimed with the exception of a crown and side portion each having a Young's modulus lower than the face and sole portions, a rib on the sole portion and the specific claimed Young's modulus values. More specifically, Tsuchiya fails to disclose that the crown and at least part of the side portion are collectively press-molded together while the face and sole are molded separately therefrom. Instead, Tsuchiya shows that the club head

pieces are of substantially the same material, while the thickness of selective pieces, notably the crown, is thinned in order to provide added repulsion force to a struck ball, thereby resulting in a longer flying distance (see the abstract in Tsuchiya). Specific to claims 2 and 8, Motomiya shows it to be old in the art to fabricate a hollow club head using plural shell pieces, one of which incorporates the top or crown section along with a portion of the sides of the shell. The remaining diverse shell pieces define a face portion and a sole portion. See Figure 5 in Motomiya. The embodiment in Figure 5 of Motomiya is but one of several arrangements for the preparation of the shell pieces, with the further embodiments in Figures 2-4 detailing alternative designs for fabricating the distinct shell components. Tsuchiya likewise displays a plethora of club head shell combinations, which are assembled to form a hollow shell. See Figures 8A-8C in Tsuchiya. In view of the patent to Anderson, it would have been obvious to modify the device in the cited art reference to Tsuchiya by forming the crown and at least a part of the side portion together, with the remaining portions (i.e., sole and face) formed separately and subsequently joining all of these pieces to come up with a complete hollow club head, the motivation being to simply provide another convenient manner in which to join the club head pieces. Specific to claims 6 and 12, note that Motomiya further obviates the use of a rib (215), a part of which extends along the sole for reinforcement purposes. In view of this further teaching by Motomiya, it would have been obvious to modify the Tsuchiya device by providing a rib along the sole, the motivation being to enhance the strength of the hollow shell adjacent the sole. Tsuchida is cited to show that it is old in the art to provide a golf club head with a top portion that

exhibits a lower modulus than the remainder of the shell. More specifically, the crown portion (5) is made of a first material with a modulus of 210 GPA, while the remainder of the shell is made of a material having a modulus of between 150-250 GOA (col. 6, lines 44-57). Although Tsuchida is mainly concerned with a club head in which the center includes a core material (12), a similar arrangement showing the flexibility of the crown is evidenced in a club head having a hollow interior, such being the case with the further teaching to Hoshi. Specifically, Hoshi shows a club head in which the crown portion (14b) is made of a material in the which the Young's modulus differs from the modulus of at least the sole portion (col. 6, lines 4-16). In a manner similar to Tsuchida, the crown in the Hoshi device is allowed to flex during impact of the clubface with a ball so that the flight distance of the ball is increased and the sweet spot area of the clubface is enlarged to better enhance the directional stability of a struck ball. See col. 1, lines 35-45 in Hoshi and col. 6, lines 18-29 in Tsuchida. All of Tsuchiya, Hoshi and Tsuchida are concerned with enhancing the repulsion characteristics of the face for increasing the flying distance of a struck golf ball. Thus, in view of the patents to Hoshi and Tsuchida, it would have been obvious to modify the device in the Tsuchiya device by fabricating the crown portion from a material that is diverse from the material of the remaining shell members, the motivation being to provide another means for increasing the flexure of the crown on impact of a golf ball with the clubface, the flexure creating improved flight of the struck ball. Specific to claims 3 and 9, Tsuchiya shows a crown having a thickness between 0.6 and 3mm (col. 10, lines 10-14). Specific to claims 4, 5, 10 and 11, while Tsuchiya does not disclose the specific values for Young's modulus, it is clear

from a reading of the entirety of the prior art documents cited that the selection of a material or combination of materials to take advantage of the known properties of said material(s) would have been obvious to one having ordinary skill in the art. In addition, the obviousness in the selection of a known material has been established under the Patent statutes. See *In re Hopkins*, 145 USPQ 140. Moreover, the patent to Hoshi details that the construction of the club head, particularly the thickness of the shell pieces, is carried out with a consideration of the Young's modulus of the material selected for the head (col. 2, lines 56-65). In Hoshi, a distinct relationship has been acknowledged among the desired Young's modulus, the thickness of the crown and the material chosen. Since the applicant has not invented the claimed materials having the claimed Young's modulus values and since the applicant has merely selected materials exhibiting a Young's modulus that is optimally compatible with the particular thickness of the shell, the specific claimed values are not deemed critical. As for the specific limitation newly added to claims 1 and 11, "and an intersection angle between the crown portion and the side portion is larger than 90 degrees", reference is made to the newly cited references to Kusumoto and Murphy, which show it to be old in the art to fashion a wood style club head with an intersection between the crown and a side portion. See Figures 6A, 6B and 6C in Kusumoto as well as Figure 5 in Murphy. While the references do not provide any specific reason for the 90 degree arrangement, one may safely conclude that such only represents an obvious design variation over prior art wood type club heads, given the enormous variance in club head design available in the art. Moreover, the claimed configuration is not deemed critical as the applicant has

provided no reasoning whatsoever for the orientation between the crown and side portions.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The language newly added to claims 1 and 11, "and an intersection angle between the crown portion and the side portion is larger than 90 degrees" finds no antecedent basis in the specification.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 and 10-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of copending Application No. 10/188,043 in view of Kusumoto ('958) and Murphy ('847). This is a provisional obviousness-type double patenting rejection. The claimed invention of the '043 application shows substantially of the currently claimed features with the exception of "an intersection angle between the crown portion and the side portion is larger than 90 degrees". Reference is made to the newly cited references to Kusumoto and Murphy, which show it to be old in the art to fashion a wood style club head with an intersection between the crown and a side portion. See Figures 6A, 6B and 6C in Kusumoto as well as Figure 5 in Murphy. While the references do not provide any specific reason for the 90 degree arrangement, one may safely conclude that such only represents an obvious design variation over prior art wood type club heads, given the enormous variance in club head design available in the art. Moreover, the claimed configuration is not deemed critical as the applicant has provided no reasoning

whatsoever for the orientation between the crown and side portions. As for the remaining limitations in the claims, note the following:

As to instant claims 1 and 4, see claim 1 of the '043 application.

As to instant claim 2, see claim 2 of the '043 application.

As to instant claim 3, see claim 3 of the '043 application.

As to instant claim 5, see claim 5 of the '043 application.

As to instant claim 6, see claim 10 of the '043 application.

As to instant claims 7 and 10, see claim 1 of the '043 application.

As to instant claim 11, see claim 5 of the '043 application.

As to instant claim 12, see claim 10 of the '043 application.

Terminal Disclaimer

Examples of acceptable language for making the disclaimer of the terminal portion of any patent granted on the subject application follow:

I. If a Provisional Obviousness-Type Double Patenting Rejection Over A Pending Application was made, use:

The owner, _____, of _____ percent interest in the instant application hereby disclaims the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference Application Number** _____, filed on _____, as such term is defined in 35 U.S.C. 154 and 173, and as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

II. If an Obviousness-Type Double Patenting Rejection Over A Prior Patent was made, use:

The owner, _____, of _____ percent interest in the instant application hereby disclaims the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **reference patent No.** _____ as the term of said **reference patent** is defined in 35 U.S.C. 154 and 173, and as the term of said **reference patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **reference patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

Alternatively, Form PTO/SB/25 may be used for situation I, and Form PTO/SB/26 may be used for situation II; a copy of each form may be found at the end MPEP § 1490.

Response to Arguments

In the arguments received 06/07/2006, the applicant contends that a *prima facie* case of obviousness has not been established through the combined teachings of Tsuchiya *et al*, Tsuchida and Hoshi. Rather than reiterate the arguments presented by the applicant, attention is drawn to the remarks received 06/07/06, incorporated herein by reference. The basis for the arguments are substantially identical to those arguments presented by the applicant with the "Pre-Appeal Brief Request For Review", received 02/01/2006. The outcome of the Request included the mailing of a "Notice of Panel Decision from Pre-Appeal Brief Review", mailed 03/07/2006. The arguments set forth by the applicant rely on the alleged non-obviousness of modifying the prior art device shown in Tsuchiya *et al* when considering the teachings of Tsuchida, given that

Tsuchida allegedly teaches away from having a hollow core design. Moreover, the applicant argues that the prior art to Hoshi teaches the use of the same Young's modulus for all parts of the head and further contends that there is no basis supplied by the Office for the obviousness-type rejection against the claimed club head body having the specific claimed dimensions and/or properties. A response to these arguments was provided in the final rejection, mailed 11/01/2005. The comments by the Office from the 11/01/2005 mailing are repeated below for the convenience of the applicant.

It is noted that careful consideration has been given to applicant's arguments. True, the prior art reference to Tsuchida discloses a golf club head with a core construction. In other words, the design of the Tsuchida golf club head does not lend itself to a hollow style construction. However, the rejection of claims 1-12 is based upon a modification of the Tsuchiya ('217) reference in view of Tsuchida ('913), Motomiya ('931) and Hoshi ('560). The rejection is not based upon Tsuchida ('913) in view of Tsuchiya ('217). The patent to Tsuchiya shows every feature claimed with the exception of a crown and side portion each having a Young's modulus lower than the face and sole portions, a rib on the sole portion and the specific claimed Young's modulus values. Tsuchida is cited to show that it is old in the art to provide a golf club head with a top portion that exhibits a lower modulus than the remainder of the shell. More specifically, the crown portion (5) is made of a first material with a modulus of 210 GPA, while the remainder of the shell is made of a material having a modulus of between 150-250 GPA (col. 6, lines 44-57). Thus, in view of the patent to Tsuchida, it would have been obvious to modify the device in the Tsuchiya device by fabricating the

crown portion from a material that is diverse from the material of the remaining shell members, the motivation being to provide another means for increasing the flexure of the crown on impact of a golf ball with the clubface, the flexure creating improved flight of the struck ball, all as set forth in the last Office action.

With respect to the teachings supplied by the prior art to Hoshi, while the Hoshi reference may disclose that the Young's modulus is uniform throughout the head, there is nonetheless a clear teaching in Hoshi that the material selected for the head is dependent upon consideration of a particular Young's modulus. A distinct relationship has nonetheless been acknowledged among the desired Young's modulus, the thickness of the crown and the material chosen. Once again, the applicant has not invented the claimed materials having the claimed Young's modulus values, but has merely selected materials exhibiting a Young's modulus that is optimally compatible with the particular thickness of the shell. Thus, the specific claimed values will not be considered critical. There is no need to provide any further evidence to support the obvious nature of the proposed rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sebastiano Passaniti whose telephone number is 571-272-4413. The examiner can normally be reached on Monday through Friday (6:30AM - 3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eugene L. Kim can be reached on 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.Passaniti/sp
August 31, 2006


Sebastiano Passaniti
Primary Examiner